

MAR 16 2007

Application No. 09/709,787
Reply to Final Office Action of Sept 18, 2006

Patent
Attorney Docket No. 89003-6

I. AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions of claims in the application.

Claims 1 – 154 (cancelled)

Claim 155. (Previously presented) A spa control system, comprising:

- A) a heating module suitable for heating water;
- B) at least one water pump suitable for pumping water through said heating module;
- C) a spa controller adapted for controlling said heating module and said water pump at least in part on the basis of software installed on said spa controller;
- D) an interface signal converter in communication with said spa controller, said interface signal converter being operative for:
 - establishing a communications link with a remote computer;
 - receiving communication signals conveying software components over the communications link, said software components comprising updates to software already installed on said spa controller;
 - communicating said software components to said spa controller for updating the software installed on said spa controller;

wherein said interface signal converter converts communication signals received from the remote computer via said communications link and directs the converted signals to said spa controller, and wherein said interface signal converter converts signals from said spa controller to be communicated to the remote computer via said communications link.

Application No. 09/709,787
Reply to Final Office Action of Sept 18, 2006

Patent
Attorney Docket No. 89003-6

Claim 156. (Cancelled)

Claim 157. (Cancelled)

Claim 158. (Previously presented) The spa control system as in Claim 155, wherein said interface signal converter comprises an RS transceiver.

Claim 159. (Previously presented) The spa control system as in Claim 158, wherein said RS transceiver is an RS-485 transceiver.

Claim 160. (Previously presented) The spa control system as in Claim 155, wherein said interface signal converter comprises an IR transceiver.

Claim 161. (Previously presented) The spa control system as in Claim 155, wherein said interface signal converter comprises an RF transceiver.

Claim 162. (Previously presented) The spa control system as in Claim 155, wherein said interface signal converter is capable of transceiving at least two different types of communication signals.

Claim 163. (Previously presented) The spa control system as in Claim 162, wherein said at least two different types of communication signals is an RS differential signal and an IR signal.

Claim 164. (Previously presented) The spa control system as in Claim 155, wherein said interface signal converter is removably attached to said spa controller.

Claim 165. (Previously presented) The spa control system as in Claim 164, wherein said spa controller defines a cavity, wherein said interface signal converter is removably attached to said spa controller via said cavity.

Application No. 09/709,787
Reply to Final Office Action of Sept 18, 2006

Patent
Attorney Docket No. 89003-6

Claim 166. (Previously presented) The spa control system as in Claim 155, wherein said interface signal converter is rigidly attached to said spa controller.

Claim 167. (Previously presented) The spa control system as in Claim 155, wherein said interface signal converter is rigidly attached to the spa controller as one unit.

Claim 168. (Previously presented) The spa control system as in Claim 155, wherein said interface signal converter is adapted for establishing a communications link with a remote computer over a wire-line link.

Claim 169. (Previously presented) The spa control system as in Claim 155, wherein said communications link is a wireless communications link.

Claim 170. (Previously presented) The spa control system as in Claim 155, wherein said interface signal converter is adapted for establishing a communications link with a remote computer through a computer network.

Claim 171. (Previously presented) The spa control system as in Claim 170, wherein said computer network is the Internet.

Claim 172. (Previously presented) The spa control system as in Claim 155, wherein said communications link is established over the Internet.

Claim 173. (Cancelled)

Claim 174. (Cancelled)

Claim 175. (Cancelled)

Application No. 09/709,787
Reply to Final Office Action of Sept 18, 2006

Patent
Attorney Docket No. 89003-6

Claim 176. (Cancelled)

Claim 177. (Cancelled)

Claim 178. (Cancelled)

Claim 179. (Cancelled)

Claim 180. (Previously presented) The spa control system as in claim 170, wherein said computer network is a LAN.

Claim 181. (Previously presented) The spa control system as in Claim 155, wherein said remote computer is a PDA.

Claim 182. (Previously presented) The spa control system as in Claim 155, wherein said remote computer is a cellular phone.

Claim 183. (Previously presented) The spa control system as in Claim 155, further comprising a spa skirt, and wherein said remote computer is located underneath said spa skirt.

Claim 184. (Cancelled)

Claim 185. (Previously presented) The spa control system as in Claim 155, wherein said remote computer is used to monitor and control the spa.

Claim 186. (Previously presented) A spa control system, comprising:

- A) heating means suitable for heating water;
- B) water pump means suitable for pumping water through said heating means;

Application No. 09/709,787
Reply to Final Office Action of Sept 18, 2006

Patent
Attorney Docket No. 89003-6

- C) a spa controller means adapted for controlling said heating means and said water pumping means at least in part on the basis of software installed on said spa controller means,
- D) an interface signal converter means in communication with said spa controller means, said interface signal converter means being operative for:
- establishing a communications link with a remote computer;
 - receiving communication signals conveying software components over the communications link, said software components comprising updates to software already installed on said spa controller means;
 - communicating said software components to said spa controller means for updating the software installed on said spa controller means;

wherein said interface signal converter means converts communication signals received from the remote computer means via said communications link, and wherein said interface signal converter means converts signals from said spa controller means to be communicated to said remote computer means via the communications link.

Claim 187. (Currently Amended) A spa control system, comprising:

- A) a heating module suitable for heating water;
- B) at least one water pump suitable for pumping water through said heating module;
- C) a spa controller adapted for:
- controlling said heating module and said water pump at least in part on the basis of software installed on said spa controller; and
 - generating a record of errors associated with at least one of said heating module and said at least one water pump;

Application No. 09/709,787
Reply to Final Office Action of Sept 18, 2006

Patent
Attorney Docket No. 89003-6

D) an interface signal converter in communication with said spa controller, said interface signal converter being operative for:

- establishing a communications link with a remote computer;
- receiving data comprising asaid record of errors from generated at said spa controller;
- transmitting a signal conveying the record of errors to the remote computer over said communications link;

wherein said interface signal converter converts communication signals transferred from the remote computer via said communications link and directs the converted signals to said spa controller, and wherein said interface signal converter converts signals from said spa controller to be communicated to the remote computer via said communications link.

Claim 188. (Cancelled)

Claim 189. (Cancelled)

Claim 190. (Previously presented) The spa control system as in Claim 187, wherein said communications link is a wireless communications link.

Claim 191. (Previously presented) The spa control system as in Claim 187, wherein said remote computer is a cellular phone.

Claim 192. (Previously presented) The spa control system as in Claim 187, wherein said interface signal converter is integrated into said spa controller.

Claim 193. (Previously presented) The spa control system as in Claim 187, wherein said interface signal converter comprises an IR transceiver.

Application No. 09/709,787
Reply to Final Office Action of Sept 18, 2006

Patent
Attorney Docket No. 89003-6

Claim 194. (Previously presented) The spa control system as in Claim 187, wherein said record of errors comprises the number of times an error has occurred.

Claim 195. (Previously presented) A spa control system comprising:

- A) a heating module suitable for heating water;
- B) at least one water pump suitable for pumping water through said heating module;
- C) a spa controller adapted for controlling said heating module and said water pump at least in part on the basis of software installed on said spa controller;
- D) an interface signal converter in communication with said spa controller, said interface signal converter being operative for exchanging signals with a hand-portable remote computer over a wireless communications link, wherein the signals received from said hand-portable remote computer include software components comprising updates to software already installed on said spa controller, said interface signal converter being further operative for communicating said software components to said spa controller for updating the software installed on said spa controller.

Claim 196. (Previously presented) The spa control system as in Claim 195, wherein said hand-portable remote computer is a PDA.

Claim 197. (Previously presented) The spa control system as in Claim 195, wherein said hand-portable remote computer is a cellular phone.

Claim 198. (Previously presented) The spa control system as in Claim 195, wherein said interface signal converter converts signals transferred from the hand-portable remote computer via said wireless communications link and directs the converted signals to said spa controller, and wherein said interface

Application No. 09/709,787
Reply to Final Office Action of Sept 18, 2006

Patent
Attorney Docket No. 89003-6

signal converter converts signals from said spa controller to be communicated to the hand-portable remote computer via said wireless communications link.

Claim 199. (Previously presented) The spa control system as in Claim 195, wherein said hand-portable remote computer is a PDA device.

Claim 200. (Previously presented) A spa control system comprising:

- A) a interface signal converter;
- B) a spa controller in communication with said interface signal converter, said spa controller being adapted for controlling a set of spa components at least in part on the basis of software installed on said spa controller;
- C) said interface signal converter being operative for:
 - establishing a communications link with a remote computer;
 - receiving information conveying software components over the communications link;
 - transmitting signals conveying the software components to the spa controller;
- D) said spa controller being operative for:
 - receiving signals conveying the software components from said interface signal converter;
 - updating software already installed on said spa controller at least in part on the basis of the software components received from interface signal converter.

Claim 201. (Previously presented) The spa control system as in Claim 200, wherein said interface signal converter comprises an RS transceiver.

Claim 202. (Previously presented) The spa control system as in Claim 201, wherein said RS transceiver is an RS-485 transceiver.

Application No. 09/709,787
Reply to Final Office Action of Sept 18, 2006

Patent
Attorney Docket No. 89003-6

Claim 203. (Previously presented) The spa control system as in Claim 200, wherein said interface signal converter comprises an IR transceiver.

Claim 204. (Previously presented) The spa control system as in Claim 200, wherein said interface signal converter comprises an RF transceiver.

Claim 205. (Previously presented) The spa control system as in Claim 200, wherein said interface signal converter is capable of transceiving at least two different types of communication signals.

Claim 206. (Previously presented) The spa control system as in Claim 205, wherein said at least two different types of communication signals include an RS differential signal and an IR signal.

Claim 207. (Previously presented) The spa control system as in Claim 200, wherein said interface signal converter is removably attached to said spa controller.

Claim 208. (Previously presented) The spa control system as in Claim 200, wherein said interface signal converter is rigidly attached to said spa controller.

Claim 209. (Previously presented) The spa control system as in Claim 200, wherein said spa controller include a body, said interface signal converter being an integral part of the body of said spa controller.

Claim 210. (Previously presented) The spa control system as in Claim 200, wherein said interface signal converter is adapted for establishing a communications link with a remote computer over a wire-line link.

Application No. 09/709,787
Reply to Final Office Action of Sept 18, 2006

Patent
Attorney Docket No. 89003-6

Claim 211. (Previously presented) The spa control system as in Claim 200, wherein said communications link is a wireless communications link.

Claim 212. (Previously presented) The spa control system as in Claim 200, wherein said interface signal converter is adapted for establishing a communications link with a remote computer through a computer network.

Claim 213. (Previously presented) The spa control system as in Claim 212, wherein said computer network is the Internet.

Claim 214. (Previously presented) The spa control system as in Claim 200, wherein said remote computer is a PDA.

Claim 215. (Previously presented) The spa control system as in Claim 200, wherein said remote computer is a cellular phone.

Claim 216. (Previously presented) A computer readable storage medium including a program element suitable for execution by a computing apparatus for implementing a system for monitoring a spa controller, the computing apparatus including a memory unit and processor operatively connected to the memory unit, said program element when executing on said processor being operative for:

- a) establishing a communications link with a spa controller;
- b) transmitting information conveying software components over the communications link, the software components being adapted to cause software already installed on the spa controller to be updated.

Claim 217. (Previously presented) A computer readable storage medium as defined in claim 216, wherein said computing apparatus is a PDA.

Application No. 09/709,787
Reply to Final Office Action of Sept 18, 2006

Patent
Attorney Docket No. 89003-6

Claim 218. (Previously presented) A computer readable storage medium as defined in claim 216, wherein said computing apparatus is a cellular phone.

Claim 219. (Previously presented) A computer readable storage medium as defined in claim 216, wherein said communications links is a wireless link.

Claim 220. (New) A spa control system as in Claim 155, wherein said interface signal converter is further operative for:

- receiving data comprising a record of errors from said spa controller;
- transmitting a signal conveying the record of errors to the remote computer over said communications link.

Claim 221. (New) A spa control system as in Claim 186, wherein said interface signal converter means is further operative for:

- receiving data comprising a record of errors from said spa controller means;
- transmitting a signal conveying the record of errors to the remote computer over said communications link.

Claim 222. (New) A spa control system as in Claim 195, wherein said interface signal converter means is further operative for:

- receiving data comprising a record of errors from said spa controller means;
- transmitting a signal conveying the record of errors to the remote computer over said communications link.

Claim 223. (New) A spa control system as in Claim 200, wherein said interface signal converter means is further operative for:

- receiving data comprising a record of errors from said spa controller means;

Application No. 09/709,787
Reply to Final Office Action of Sept 18, 2006

Patent
Attorney Docket No. 89003-6

- transmitting a signal conveying the record of errors to the remote computer over said communications link.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.